

## **REMARKS**

The Examiner rejected Claims 2 and 9 under 35 U.S.C. § 112. The Examiner objected to Claim 31 for containing an informality. The Examiner rejected Claims 1-3, 5, 8-11, and 22-26 under 35 U.S.C. § 103(a) as being unpatentable over Patent Number 6,757,471 (Jeong) in view of Patent Number 6,282,349 (Griffin). The Examiner rejected Claims 27-35 under 35 U.S.C. § 103(a) as being unpatentable over Jeong and Griffin. Such rejections are noted. The Examiner allowed Claims 12 to 21. The Examiner objected to Claims 4, 6, 7, and 36 as being dependent upon a rejected base claim.

Claims 2, 12, 22-24, 27, 31 and have been amended, Claim 28 has been cancelled, and Claim 37 has been added. Filed herewith is a 37 C.F.R. § 1.132 Declaration of Roy Guynn, a person of skill in the art of optical devices. The Declaration sets forth facts regarding the art cited by the Examiner and the state of the optical art at the time of filing of the Application. Applicant respectfully submits that Claims 1-37 are allowable.

### **Rejection Under 35 U.S.C. § 112, second paragraph**

The Examiner rejected Claims 2 and 9 under 35 U.S.C. § 112. Claim 2 was rejected for insufficient antecedent basis for "said pair of slots." Applicant has amended Claim 2 to correct a typographical error in referring to said pair of openings introduced in Claim 1.

With respect to Claim 9, the Examiner states:

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 depends upon independent claim 1, which regards a first member as an optical element (collimator 108, actuator 106, attenuator, filter) and a second member as a housing 102 for the first member. [0024] The applicant, in claim 9, contradicts claim 1 by designating the second member as the optical element. If it is the housing, then it cannot be the optical element at the same time. The examiner believes that the applicant is actually referring to an alternative embodiment as supported by lines 13-15 of [0029]: "In another embodiment, the housing 102 is a first member and the optical element 108 is a second member." Under these circumstances, claim 9 should not be made a dependent claim of claim 1.

Paper Number 20050518, Application Serial No. 10/672,595, at 2.

Applicant respectfully disagrees with the Examiner because Claim 1 does not include a limitation that the first member is an optical element. Claim 1 limitations relating to the first member include that it is received by an aperture defined by the second member and that an adhesive adheres to the first member.

Dependent Claim 8, which depends from Claim 1, includes the limitation that the "first member is an optical element." Dependent Claim 9, which also depends from Claim 1, includes the limitation that the "second member is an optical element." The two dependent claims together cover devices in which either the first or second member is an optical element.

Applicant respectfully submits that Claim 9 is not indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Accordingly, Applicants respectfully request the Examiner withdraw his rejection of Claim 9 under section 112, second paragraph. If the Examiner maintains this rejection, Applicants respectfully request the Examiner to particularly point out the language in Claim 1 that supports the Examiner's assertion that the first element is an optical element.

#### **Claim Objection due to Informalities**

The Examiner objected to Claim 31 because the claim contains the character "h" in line 1. Applicants thank the Examiner for finding this typographical error. Claim 31 has been amended to remove the extra character.

#### **Obviousness Under 35 U.S.C. § 103**

The Examiner rejected Claims 1-3, 5, 8-11, and 22-26 under 35 U.S.C. § 103(a) as being unpatentable over Jeong, and in view of Griffin. A rejection under 35 U.S.C. § 103(a) must be supported by a *prima facie* case of obviousness. MPEP § 2142. "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." MPEP § 2142, pg. 2100-121.

The first element in establishing a *prima facie* case of obviousness is that "there must be some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings.” MPEP § 2143. The second element is that there must be a reasonable expectation of success. *Id.* The third element is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” *Id.* “There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was held improper); see MPEP § 2143.01.

The relevant facts for finding obviousness relate to (1) the scope and content of the prior art, (2) the level of ordinary skill in the field of the invention, (3) the differences between the claimed invention and the prior art, and (4) any objective evidence of nonobviousness such as long felt need, commercial success, the failure of others, or copying. *Graham v. John Deere Co.*, 148 U.S.P.Q. 459, 467 (U.S. 1966). The obviousness analysis articulated by the United States Supreme Court in *Graham* requires that “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.” *Id.* With respect to the fourth factor, the Supreme Court allowed that “[s]uch secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.” *Id.*

With respect to Claims 1-3, 5, 8-11, and 22-26, the Examiner states:

Jeong teaches an optical block assembly having a first optical member **F2/BF** and a second member for fixing and supporting the first optical member. (See at least **Fig. 7** and its descriptions) The second member includes a cover **C5** and a block **30** with V-grooves (aperture) **310** to receive the first optical member **F2/BF**. Jeong further teaches that the cover **C5** has two slots/openings **506** formed thereon in parallel, symmetrically and diametrically (exactly opposite) with respect to the inserted first optical member **F2/BF** and the V-grooves **310**. (See at least **Fig. 5** and its descriptions) Ridges **504/505** have inner surfaces facing each other that are perpendicular to the first optical member **F2/BF**.

Jeong still further teaches that, while in use, an adhesive, epoxy-resin B, is filled in and hardened. Jeong does not teach the adhesive having a high viscosity so that it does not wick. Griffin teaches a method of using high viscosity adhesive to secure optical fibers inside ferrules so that the adhesive cures before it can wick. (See at least **column 2, paragraph 1**) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a high viscosity adhesive in fixing the first optical member of Jeong. The motivation would be to prevent the adhesive from wicking to the end(s) of the block and contaminate the terminations of the first optical member. With reference to claim 3, since epoxy of amorphous silica is known to be an epoxy with high viscosity, (e.g. U.S. Patent 5,344,635) it would have been obvious to use it for the same motivation as well.

Insofar as the examiner can understand claim 2 due to the § 112 rejection, the adhesive is constrained within outer boundaries of the optical block assembly, as clearly seen in Figs. 7-9.

With specific reference to claims 5 and 24, Jeong and Griffin discloses the claimed invention except for a particle size of amorphous silica. Since the applicant has not disclosed that a size of less than or equal to 10pm solves any stated problem or is for any particular purposes, ([0034]) it would have been obvious to one having ordinary skill in the art to optimize the size of amorphous silica particles as needs arise. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955) The motivation would be to provide an epoxy resin composition excellent in confidence for reflow resistance at a high temperature and moldability, and to provide a semiconductor device sealed with the epoxy resin composition. (e.g. JP2002022563 to Oura et al.)

With specific reference to claim 9, insofar as the examiner can understand the claim due to the § 112 rejection, the applicant is simply switching the labels "first member" and "second member" on separate parts of the optical device. This is rejected by designating part **F2/BF** of Jeong as the second member, and designating parts **C5** and **30** of Jeong as the first member.

With specific reference to claim 11, Jeong and Griffin does not teach the third member and the second aperture to receive the third member, however, the applicant is creating a duplication of what is described in claim 1 and Jeong discussed in related art that two sets of fibers (first and third members) can be connected via an optical-fiber block. (See at least Fig. 1 and its descriptions) It would have been obvious to one having ordinary skill in the art at the time the invention was made connect the first member (optical fiber) to the third member (optical fiber), since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. St. Regis Paper Co, v. Bemis Co., 193 USPQ 8. The motivation would be to create a WDM communication system able to transmit multiple wavelengths through a single fiber.

Paper Number 20050518, Application Serial No. 10/672,595, at 3-5.

### Claims 1-3, 5, 8-11

With respect to Independent Claim 1 and dependent Claims 2, 3, 5, 8-11, the Examiner rejected the claims under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. in view of Griffin. Applicant respectfully submit that the cited references do not teach or suggest each and every element of the claimed invention as required by the third element of a *prima facie* case of obviousness.

Filed herewith is a 37 C.F.R. § 1.132 Declaration of Roy Guynn, a person of skill in the art of optical devices. The facts set forth in the Declaration establish that the Examiner's statements with respect to the Jeong patent are incorrect:

Jeong does not disclose a member having an aperture because V-grooves are not apertures. See Declaration, para. 11.

Jeong does not disclose an aperture receiving a first member. See Declaration, para. 12.

Jeong does not disclose two slots or openings with respect to the fiber end **F2** in the cover **C5**. See Declaration, para. 14.

Jeong does not disclose diametrically opposite slots or openings with respect to the fiber end **F2** in the cover **C5**. See Declaration, para. 15.

Claim 1 includes the limitation of "a second member defining an aperture for receiving said first member." The Examiner asserts that that the V-grooves **310** disclosed by Jeong are apertures receiving the first member **F2/BF**. The Declaration establishes that the V-grooves are not apertures and they do not receive any members. See Declaration, paras. 11, 12.

Claim 1 also includes the limitation that "said second member having a pair of openings diametrically opposed relative to said first member in said opening." The Examiner asserts that that "the cover **C5** has two slots/openings **506** formed thereon in parallel, symmetrically and diametrically (exactly opposite) with respect to the inserted first optical member **F2/BF** and the V-grooves **310**." The Declaration establishes that the cover **C5** has a single slot **506** and not two as required by the claim limitation. See Declaration, para. 14. Further, the Declaration establishes that the single slot **506** in the cover **C5** is not diametrically opposed relative to the first member **BF**. See Declaration, para. 15.

Applicant offers evidence through the Declaration that the Examiner's assertions are not correct and that the cited reference, the Jeong patent, does not disclose claimed elements and limitations. Applicants respectfully submit that Claim 1 includes elements and limitations not disclosed by either Jeong or Griffin, and the Examiner has not provided a *prima facie* case showing that Jeong and Griffin renders the claimed invention obvious. Because the cited references do not teach or suggest all the claimed elements and limitations as required by the third element of a *prima facie* case of obviousness, Applicant respectfully request the Examiner withdraw his rejection of Claim 1. Applicants respectfully submit that Claims 2-11 are allowable for depending upon an allowable base claim.

#### **Claim 11**

The Examiner rejected Claim 11 without addressing all the limitations contained in dependent Claim 11. The Examiner asserts that Claim 11 is "a duplication of what is described in claim 1."

Applicant notes that Claim 11 includes limitations that do not have corresponding limitations in Claim 1. For example, Claim 11 includes the limitation that "each of said second pair of openings having a longitudinal axis parallel to a longitudinal axis of said third member." The Examiner has not cited a reference showing that this limitation is disclosed in the prior art. Further, the facts set forth in the Declaration establish that Jeong does not disclose two slots or openings with respect to the fiber end **F2** in the cover **C5**. See Declaration, para. 14. Therefore, Jeong does not teach or suggest this limitation. Applicants respectfully submit that Claim 1 includes elements and limitations not disclosed by either Jeong or Griffin, and the Examiner has not provided a *prima facie* case showing that Jeong and Griffin renders the claimed invention obvious. Because the cited references do not teach or suggest all the claimed elements and limitations as required by the third element of a *prima facie* case of obviousness, and notwithstanding that Claim 11 is allowable for depending from an allowable base claim, Applicant respectfully request the Examiner withdraw his rejection of Claim 11.

## Claims 22-24

The Examiner rejected Claims 22-24 under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. in view of Griffin, as quoted above.

Applicant has amended Claim 22 to include the limitations that the support member includes "at least two surfaces substantially perpendicular in a longitudinal direction with a surface of said optical element, each pair of said at least two surfaces substantially on diametrically opposite sides of said optical element." Jeong discloses an optical element **F2/BF** surrounded by three surfaces arranged in a triangular pattern. Jeong, FIGS. 2, 3, 7-9, 12, and 13. These three surfaces are not "substantially perpendicular in a longitudinal direction with a surface of said optical element" as required by the claim. Further, Jeong does not disclose any pair of the three surfaces being on diametrically opposite sides of the optical element **F2/BF**. Accordingly, Applicant respectfully submits that the amended Claim 22 is distinguished from Jeong and requests the Examiner withdraw the rejection to Claim 22. Further, Applicant respectfully submits that Claims 23 and 24 are allowable for depending from an allowable base claim.

Additionally, Claim 22 has been amended to remove a limitation that "said adhesive including a filler of amorphous silica." Applicants have amended Claim 23 to correct the antecedent basis of "the at least two surfaces" caused by the amendment of Claim 22. Applicants have also amended Claim 24 to correct a typographical error by removing the extraneous word from the claim.

## Claims 25 and 26

The Examiner rejected Claims 25 and 26 under 35 U.S.C. 103(a) as being unpatentable over Jeong in view of Griffin, as quoted above. Claims 25 and 26 include means-plus-function limitations, as defined by 35 U.S.C. § 112, sixth paragraph. A means-plus-function limitation must be interpreted to cover the corresponding structure, materials, or acts in the specification and "equivalents thereof." 35 U.S.C. § 112, sixth paragraph; *see also* MPEP § 2181. The Examiner "must apply 35 U.S.C. 112, sixth paragraph in appropriate cases, and give claims their broadest reasonable interpretation, **in light of and consistent with the written description of the**

**invention in the application."** MPEP 2181, sub-section I, pg. 2100-220, 8th ed., rev. 2 (emphasis added).

In accordance with MPEP § 2181, it no longer is acceptable practice for the Examiner to interpret means-plus-function limitations "as reading on any prior art means or step which performed the function specified in the claim without regard for whether the prior art means or step was equivalent to the corresponding structure, material or acts described in the specification." MPEP § 2181, pg. 2100-220 (emphasis added). The current practice is that "the application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim." MPEP § 2182, pg. 2100-227. "However, if a prior art reference teaches identity of function to that specified in a claim, then under *Donaldson* **an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification** which has been identified as corresponding to the claimed means or step plus function." *Id.* (emphasis added). The MPEP further states "The 'means or step plus function' limitation should be interpreted in a manner consistent with the specification disclosure." *Id.*

For making a *prima facie* case of equivalence for a means-plus-function limitation, the MPEP states

If the examiner finds that a prior art element

- (A) performs the function specified in the claim,
- (B) is not excluded by any explicit definition provided in the specification for an equivalent, and
- (C) is an equivalent of the means-(or step-) plus-function limitation,

the examiner should provide an explanation and rationale in the Office action as to why the prior art element is an equivalent.

MPEP § 2183, pg. 2100-228. With respect to the third element above, the prior art element is an equivalent, the MPEP states that a factor supporting such a conclusion is "(D) the prior art element is a structural equivalent of the corresponding element disclosed in the specification." MPEP § 2183, pg. 2100-228. The MPEP further requires that "the prior art element performs the function specified in the claim in substantially the same manner as the function is performed by the corresponding



element described in the specification." MPEP § 2183, pg. 2100-228 (emphasis added).

Accordingly, it is necessary to consider the specification in determining the scope of the rejected claims.

Claim 25 includes limitations for "a means for supporting said optical element," and "a means for adhering said optical element to said means for supporting." Applicants' specification describes the structure corresponding to the claimed functions. Specification, para. 42. Applicants respectfully submit that Claim 25 is not obvious over Jeong in view of Griffin because neither of the cited references disclose any equivalent structures corresponding to those disclosed in Applicant's specification, and, therefore, neither Jeong nor Griffin teach every element of the claimed invention. Accordingly, Applicant respectfully request that the Examiner withdraw his rejection of Claim 25. Applicant submits that Claim 26 is allowable for depending from an allowable base claim.

#### **Claims 27-35**

With respect to Claims 27-35, the Examiner states:

Claims 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. and Griffin. A method as claimed by the applicant for forming the optical device previously described closely adhered to the components previously rejected by Jeong and Griffin and the first member would be visible through the slots **506** prior to a step in the method where the adhesive is filled into said slots. Jeong and Griffin do not teach the adhesive being cured as a final step of the method, but curing epoxy adhesive is well known in the art as a critical step of securing optical fibers within optical devices such as connectors, and it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this step in a method of creating optical device. The support of this includes, for example, U.S. Patent 5,109,460 to Baek et al., where optical fibers are secured in V-grooves by epoxy. The motivation would be to harden the epoxy and limit unneeded movements of optical fibers within the device.

Paper Number 20050518, Application Serial No. 10/672,595, at 5-6.

Claim 27 has been amended to distinguish the claimed invention from Jeong. A limitation of Claim 28 has been incorporated into Claim 27. In particular, the limitation that "said second member having a pair of openings oriented on opposing

sides of said first member" replaces the limitation that "said second member having at least one opening having a passage through which said first member is visible."

Applicant respectfully submits that the amended claim is allowable and requests the Examiner withdraw the rejection to Claim 27. Further, Applicant submits that Claims 29-31 are allowable for depending from an allowable base claim.

Claim 32 has been amended to distinguish the claimed invention from Jeong. Step b) of the claim has been amended to include the limitation that there is "a pair of seams," and that "each one of said pair of seams oriented on opposing sides of said optical element." Applicant respectfully submits that the amended claim is allowable and requests the Examiner withdraw the rejection to Claim 32. Further, Applicant submits that Claims 33-35 are allowable for depending from an allowable base claim.

#### **New Claims**

Claim 37 has been added. Claim 12, although allowed by the Examiner, has been amended to delete a limitation. That limitation is included in new Claim 37, which depends from amended Claim 12. Applicant respectfully submits that amended Claim 12 is allowable because the Examiner stated that that the deleted limitation is an additional limitation over Claim 4, which was found allowable.

#### **Claims with Objections**

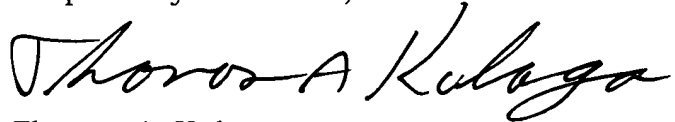
The Examiner objected to Claims 4, 6, 7, 36 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all the limitations of the base claim and any intervening claims. Because of the above, including the amendment to Claim 32, Applicant respectfully submit that Claims 4, 6, 7, 36 are in condition for allowance. However, if for some reason the Examiner maintains the rejection of independent Claims 1 and 32, Applicant reserves the right to rewrite Claims 4, 6, 7, 36 in independent form.

## Conclusion

In view of the amendment of Claims 2, 12, 22-24, 27, 31 and 32, the cancellation of Claim 28, and the addition of Claim 37, it is believed that the above-identified patent application is in a condition for the issuance of a Notice of Allowance. Such action by the Examiner is respectfully requested. If, however, the Examiner is of the opinion that any of the drawings or other portions of the application are still not allowable, it will be appreciated if the Examiner will telephone the undersigned to expedite the prosecution of the application.

Please charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 16-1910 (29165.00).

Respectfully submitted,

A handwritten signature in black ink, reading "Thomas A. Kulaga". The signature is fluid and cursive, with the first name "Thomas" and last name "Kulaga" clearly distinguishable.

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